



WISSENSCHAFTLICHE KURZMITTEILUNGEN

Plerotes anchietae (Seabra, 1900) in Malawi, Central Africa (Mammalia: Chiroptera)

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In the Nyika National Park of northern Malawi, two small fruit bats were collected, which proved to be *Plerotes anchietae* (Seabra, 1900), as described and illustrated by ANDERSEN (1912) and reviewed by BERGMANS (1989). *P. anchietae* was not previously known from Malawi, where 59 species of bats are recorded (HAPPOLD et al. 1988; HAPPOLD and HAPPOLD 1997).

Note: THOMAS et al. (1994) examined *Nycteris nana* Andersen, 1912, from Malawi, which would represent an additional species, but the collecting site (KERSHAW 1992), catalogue number, and previous examination (CAKENBERGHE and VREE 1985) make it highly probable that this is actually *Nycteris woodi* ANDERSEN, 1914 (see HAPPOLD et al. 1988).

Information on *P. anchietae* is based on nine specimens only (BERGMANS 1989). The present material confirms and extends our knowledge about this rarely collected fruit bat.

The two specimens, an adult male and an immature female, were mistnetted simultaneously just before dawn (between about 04:00 and 5:00 h) on the 13th April 1997 in the Mondwe Valley (10°24' S–33°50' E) at an altitude of 1760 m. Apparently, this pair was flying in company in the height of 2 m above ground above a high grass area from an open savanna-*Brachystegia*-woodland with little undergrowth towards a river. The collecting site confirms that *P. anchietae* has submontane to montane habitat preferences, with previous collecting sites situated between 1000–1500 m to 1500–2000 m altitude.

The known occurrence of this species is presently confined to high plateau areas in Angola in the west and in a disjunct eastern region in SE-Congo (Zaire) and NE-Zambia. In Angola, *P. anchietae* is known from four localities (see BERGMANS 1989, who mapped only three sites).

In Shaba Province (formerly Katanga) of Congo/Zaire, *P. anchietae* has been collected only from Upemba National Park. A second record from Congo/Zaire by HAYMAN et al. (1966) from Panda (10°59' S–26°47' E, Shaba Prov.), based on a specimen in the collection of the Koninklijk Museum voor Midden Afrika, Tervuren (KMMA), was re-identified as an immature *Epomophorus* species (BERGMANS 1989). HAYMAN and HILL (1971) list *P. anchietae* from Likasi (formerly Jadotville, 10°59' S–26°48' E, Shaba Prov.). BERGMANS (1989) could find no specimen from this locality (quoting Likasi erroneously from HAYMAN et al. 1966) in its depository, also the KMMA. The co-ordinates given by HAYMAN et al. (1966) prove the collecting sites, Panda and Likasi, to be synonymous and concern the same specimen.

In Zambia, *P. anchietae* has been found in Abercorn (= Mbala, 08°51' S–31°23' E) and Kasama (10°13' S–31°13' E). The additional Malawi record is approximately 200 km east of the latter locality and presently documents the easternmost occurrence of the species. Doubtlessly, *P. anchietae* will be found in other highland areas of the Central African Rift Valley, as prognosed already by KINGDON (1974).

The two present specimens (SMF 85 744-5) are the first to be preserved in alcohol (skulls extracted, soft palate in situ, tongues and intestines saved). The male (being the first adult available of its sex), does not have epomophorine epaulettes, thus confirming HARRISON'S (1960) findings in a subadult male. In case this secondary sexual character might be seasonal, neither glandiferous skin nor an incipient invagination could be detected in its shoulder region. However, in both sexes there is a spot of white hairs at the base of the propatagium, its position not comparable to that of epaulettes in *Epomophorus* Bennett, 1836. These humeral spots had been described by SEABRA (1900) but were not mentioned by ANDERSEN (1912) and subsequently their significance as a species-specific character was not recognised any more. Both specimens possess the white moustache and beard first described by BERGMANS (1989). There is no indication of cheek pouches, the inside of the upper lips being smooth (except for a papilla) and the cheek is not as elastically extendible as in *Epomophorus*.

The white marks at the posterior base of ears are not tufts, as they are customarily named and also described as such by SEABRA (1900) for *P. anchietae*. They are white hairs lining the basal third to a half of the ear conch margin; this is also the case in the genus *Epomophorus* and *Epomops* Gray, 1870.

The nostrils are less tubular than they are in *Epomophorus*. Between the nostrils, a median furrow extends from the margin of the upper lip onto the snout attaining the level of the hind margin of the nostrils. In *Epomophorus* this furrow terminates shortly above the lower margin of the nostrils.

The tongue confirms to the description by HARRISON (1960). Despite the tongue not being extensible, *P. anchietae* may possibly be a flower visitor. With its narrowed snout it can stick its head into larger flowers to reach nectar.

Several specific characters, like absence of tail, reduced uropatagium, humeral spots, absence of epaulettes, a moustache and a beard, morphology of the nose region, tooth formula, ridge pattern of soft palate, and shape of rostrum are divergent from the characters of epomophorine bats as originally defined by ANDERSEN (1912) and including the genus *Plerotes* Andersen, 1910. A phylogenetic analysis of 33 anatomical characters of Megachiroptera by SPRINGER et al. (1995) removes *Plerotes* from the *Epomophorus* section and transfers it to the *Rousettus* section.

External measurements, cranial dimensions (in mm) and weights (in g) are for the adult male (SMF 85 744) and immature female (SMF 85745) respectively:

Body: Head and body 70, 70; tails absent; hindfoot s.u. 11.3, 12.1; ear 17.8, 16.6; forearm 50.6, 46.5; tibia 20.2, 19.0; weight 20.0, 20.0. Wing: 1. digit metacarpal 7.5, 8.6; 1. digit 1. phalanx 8.8, 9.3; 2. digit metacarpal 25.1, 23.0; 2. digit 1. phalanx 9.7, 9.3; 3. digit metacarpal 35.1, 31.3; 3. digit 1. phalanx 26.6, 23.2; 3. digit 2. phalanx 35.0, 31.5; 4. digit metacarpal 35.2, 32.6; 4. digit 1. phalanx 20.2, 18.9; 4. digit 2. phalanx 19.6, 18.2; 5. digit metacarpal 34.0, 32.0; 5. digit 1. phalanx 17.5, 16.8; 5. digit 2. phalanx 17.2, 15.8. Skull: Greatest length of skull 28.23, 27.7; condylobasal length 26.84, 25.92; mastoid width 11.46, 12.18; width across zygomata 14.17, 14.36; interorbital width 5.26, 4.96; postorbital width 8.81, 8.01; width across upper canine at alveoli 5.96, 5.86; *ibid.* at crowns 6.24, 5.96; width across last upper molar 7.98, 8.03; upper toothrow length at crowns C_1 – M_1 8.08, 7.53; *ibid.* at alveoli 7.94, 7.37; length of mandible 21.47, 20.74; mandible height 5.91, 5.51; lower toothrow length at crowns, male C_1 – M_3 9.34, *ibid.* female C_1 – M_2 8.39.

The male had testes measuring 4.6×2.5 mm. The female showed no reproductive signs, but developed nipples and slightly swollen surrounding area appeared to indicate

onset of sexual maturity. The uterus has not been opened for examination, but no embryo was apparent.

The above measurements, compared to those previously published (BERGMANS 1989) do not indicate a sexual dimorphism. One generic character of *Plerotes*, the width across M^1 – M^1 being larger than the toothrow length C^1 – M^1 (see ANDERSEN 1912; BERGMANS 1989), is not conspicuous in the present specimens.

The male has the full set of teeth with M_3 present on both sides, both M_2 have two roots. In the female M_3 is absent from both sides, the right M_2 had been shed, its alveola is open; in the left M_2 the anterior and posterior roots are fused into a horizontally elongated single root.

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